

## United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

PPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/735,005	12/12/2000	Kazuyuki Ito	NEC 444	3384
27667 759	90 10/06/2004		EXAMINER	
HAYES, SOLOWAY P.C.			GEBREMARIAM, SAMUEL A	
130 W. CUSHING STREET TUCSON, AZ 85701			ART UNIT	PAPER NUMBER
1000011, 712	03701		2811	
			. DATE MAILED: 10/06/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Advisory Action	09/735,005	ITO, KAZUYUKI
Advisory Action	Examiner	Art Unit
	Samuel A Gebremariam	2811
The MAILING DATE of this communication appe	ears on the cover sheet with the c	correspondence address
THE REPLY FILED 16 September 2004 FAILS TO PLACE Therefore, further action by the applicant is required to a final rejection under 37 CFR 1.113 may only be either: (1) condition for allowance; (2) a timely filed Notice of Appeal Examination (RCE) in compliance with 37 CFR 1.114.	oid abandonment of this application at the polication of the properties are application of the properties are not seen the properties are not seen the properties are not seen as the prop	ation. A proper reply to a high places the application in
PERIOD FOR RE	EPLY [check either a) or b)]	
a) $\square$ The period for reply expires $3$ months from the mailing date	•	
b) The period for reply expires on: (1) the mailing date of this A no event, however, will the statutory period for reply expire I ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS 706.07(f).  Extensions of time may be obtained under 37 CFR 1.136(a). The fee have been filed is the date for purposes of determining the period of fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of (2) as set forth in (b) above, if checked. Any reply received by the Office timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.17(a) is calculated from: (1) the expiration date of (2) as set forth in (b) above, if checked. Any reply received by the Office timely filed, may reduce any earned patent term adjustment.	ater than SIX MONTHS from the mailing FILED WITHIN TWO MONTHS OF THe date on which the petition under 37 CF of extension and the corresponding amount the shortened statutory period for reply be later than three months after the mail	g date of the final rejection. HE FINAL REJECTION. See MPEP  R 1.136(a) and the appropriate extension out of the fee. The appropriate extension originally set in the final Office action; or
1. A Notice of Appeal was filed on Appellant's 37 CFR 1.192(a), or any extension thereof (37 CFR	·	
2. The proposed amendment(s) will not be entered be	ecause:	
(a) they raise new issues that would require further	er consideration and/or search (s	see NOTE below);
(b) they raise the issue of new matter (see Note b	pelow);	
(c) they are not deemed to place the application in issues for appeal; and/or	n better form for appeal by mate	rially reducing or simplifying the
(d) they present additional claims without canceli NOTE:	ng a corresponding number of fi	inally rejected claims.
3. Applicant's reply has overcome the following reject	ion(s):	
4. Newly proposed or amended claim(s) would canceling the non-allowable claim(s).	be allowable if submitted in a se	eparate, timely filed amendment
5.⊠ The a) affidavit, b) exhibit, or c) request for application in condition for allowance because: Sec		dered but does NOT place the
6. The affidavit or exhibit will NOT be considered becaraised by the Examiner in the final rejection.	ause it is not directed SOLELY t	to issues which were newly
7. For purposes of Appeal, the proposed amendment explanation of how the new or amended claims we		
The status of the claim(s) is (or will be) as follows:		
Claim(s) allowed:		
Claim(s) objected to:		
Claim(s) rejected: <u>37-40 and 42-45 and 47.</u>		_
Claim(s) withdrawn from consideration:		
8. The drawing correction filed on is a) app	roved or b)  disapproved by t	he Examiner.
9. Note the attached Information Disclosure Statemen	nt(s)( PTO-1449) Paper No(s)	$+$ 0 $\wedge$
10. Other:		EDDIE LEE
	SUPE TE	RVISORY PATENT EXAMINER CHNOLOGY CENTER 2800

U.S. Patent and Trademark Office PTOL-303 (Rev. 11-03) Continuation of 5. does NOT place the application in condition for allowance because: Applicant's arguments filed 9/16/04 have been fully considered but they are not persuasive. Applicant argues that the rejection based on admitted prior art in view of Gilbert et al. to claims 37, 39, and 40 is in error. APA as indicated in the final office action, teaches forming a conductive layer over the semiconductor substrate using a photoresist pattern layer using a photomask having gate patterns (P1) and (P2) and dummy gate patterns (DP). What admitted prior art lacks is using a second photomask and the formation of a trench. Gilbert teaches the use of a photolithographic process which involves the use of photomask to form trench isolation. Therefore it would have been obvious to one of ordinary skill in the art at the time theinvention was made to incorporate the first masking process for forming trench isolation trench structure taught by Gilbert in the process of admitted prior art in order to form isolation structures between the active region before forming the gate and dummy gate structures. Furthermore the combined process of admitted prior art and Gilbert results in a structure where each of the dummy gate patterns having a reduced area of the respective one of the dummy area patterns.

With respect to claim 42, applicant argues that the term "grid shaped trench" is supported by figure 5 and figs. 8A-8F. The examiner finds applicants argument persuasive. Therefore the 35 USC 112 rejection is removed. However claim 42 is prima facia obvious over Gilbert in view of admitted prior art. Gilbert teaches in figure 1 isolation area (13) intervening between the first and second active areas. Furthermore figure 7 of Gilbert teaches a masking pattern with dummy regions (20) along with active areas (21) and (27) that are used to form the device of figure 1. Therefore the process of figure 1 would have grid shaped trenches. Furthermore the combined process of admitted prior art and Gilbert results in a structure where each of the dummy gate patterns having a reduced area of the respective one of the dummy area patterns.